

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           **Claim 1 (currently amended):**    An induction heater  
2    comprising an induction heating coil which produces a high-  
3    frequency magnetic field to heat an object to be heated  
4    ~~(hereinafter: object)~~, an inverter circuit which supplies a  
5    high-frequency current to said induction heating coil, an  
6    output detection section for detecting the magnitude of the  
7    output of said inverter circuit, a control section for  
8    controlling the output of said inverter circuit in response  
9    to the output of said output detection section, a setting  
10   input section for setting a target output to be controlled by  
11   said control section, a first movement detection section for  
12   detecting a movement of said object, and a storage section  
13   for storing a control value output by said control section or  
14   an output value of said output detection section before said  
15   first movement detection section detects the movement of said  
16   object, wherein  
17           said control section has a reach control mode where the  
18   output of said inverter circuit is increased from a low  
19   output to said target output gradually, a stable control mode  
20   where said inverter circuit is controlled so that the output  
21   of said inverter circuit agrees with said target output, and  
22   a first output mode where a control value derived from the  
23   control value or the output value of said output detection

24 section stored in said storage section is output, or an  
25 output value derived from the control value or the output  
26 value of said output detection section stored in said storage  
27 section is set as a new target output, and said inverter  
28 circuit is controlled so that the output of said inverter  
29 circuit agrees with the new target output, and

30 when said first movement detection section detects a  
31 movement of said object, said control section shifts to said  
32 first output mode.

1 **Claim 2 (original):** An induction heater in accordance  
2 with claim 1, wherein, when a predetermined time period  
3 elapses in said first output mode, said control section  
4 shifts to said reach control mode.

1 **Claim 3 (original):** An induction heater in accordance  
2 with claim 1, wherein, in said first output mode where said  
3 control section outputs the control value derived from the  
4 control value or the output value of said output detection  
5 section stored in said storage section, when the difference  
6 between the output value of said output detection section  
7 stored in said storage section at the previous time and the  
8 output value of said output detection section newly stored  
9 therein is within a predetermined range, and a predetermined  
10 time period has elapsed since the shift to said first output  
11 mode, said control section changes said target output value

12 set by said setting input section into the value derived  
13 based on the output value of said output detection section  
14 stored in said storage section, or  
15 in said first output mode where said control section  
16 sets the output value derived from the control value or the  
17 output value of said output detection section stored in said  
18 storage section as the new target output and controls said  
19 inverter circuit so that the output of said inverter circuit  
20 agrees with the new target output, when the difference  
21 between the control value or the output value of said output  
22 detection section stored in said storage section at the  
23 previous time, and the control value or the output value of  
24 said output detection section newly stored in said storage  
25 section is within a predetermined range, and a predetermined  
26 time period has elapsed since the shift to said first output  
27 mode, said target output value set by said setting input  
28 section is changed into the value derived based on the  
29 control value or the output value of said output detection  
30 section stored in said storage section.

1 **Claim 4 (previously presented):** An induction heater in  
2 accordance with claim 3, having a setting display section for  
3 displaying said target output value set by said setting input  
4 section, wherein said setting display section displays said  
5 target output value set by said setting input section in  
6 response to the control value output by said control section

7 or the output value of said output detection section which  
8 have been stored in said storage section.

1       **Claim 5 (previously presented):** An induction heater in  
2 accordance with claim 1, having a second movement detection  
3 section which determines that said object has slipped to move  
4 when said first movement detection section detects movements  
5 of said object successively in said first output mode,  
6 wherein, when said second movement detection section detects  
7 the movement of said object, said control section changes the  
8 output of said inverter circuit in said first output mode  
9 into a value lower than before in order to stop the slippage  
10 of said object.

1       **Claim 6 (original):** An induction heater in accordance  
2 with claim 5, wherein, in lowering the output of said  
3 inverter circuit in said first output mode, said control  
4 section gradually reduces the output.

1       **Claim 7 (original):** An induction heater in accordance  
2 with claim 1 or 5, wherein when said target output value set  
3 by said setting input section exceeds a predetermined value,  
4 said control section corrects a threshold value with which  
5 said first movement detection section or said second movement  
6 detection section determines that said object has moved with  
7 a predetermined value.

1           **Claim 8 (original):** An induction heater in accordance  
2 with claim 3, wherein when the value for use in changing said  
3 target output value set by said setting input section, which  
4 is derived based on the control value output by said control  
5 section or the output value of said output detection section  
6 which have been stored in said storage section is less than  
7 a predetermined value, said control section stops heating.

1           **Claim 9 (original):** An induction heater in accordance  
2 with claim 1, wherein when the difference between the set  
3 output value and the output value of said output detection  
4 section is within a predetermined range in said stable  
5 control mode, said control section fixes a control value as  
6 a second output mode for at least a predetermined time  
7 period.

1           **Claim 10 (original):** An induction heater in accordance  
2 with claim 1, having a movement state detection section for  
3 determining whether said object has been moved by the outside  
4 force or the movement thereof has been caused by the  
5 repelling magnetic field in said stable control mode, wherein  
6 when said movement state detection section determines that  
7 the movement thereof has been caused by the repelling  
8 magnetic field, the shift to said first output mode is made.

1           **Claim 11 (original):** An induction heater in accordance  
2 with claim 10, wherein, in said stable control mode,  
3 according to whether or not the periods of the change in the  
4 output value of said output detection section, the control  
5 value of said control section, or the weight of said object  
6 are within a predetermined range, it is checked whether the  
7 movement of said object has been caused by the repelling  
8 magnetic field or said object has been moved by the outside  
9 force.

1           **Claim 12 (previously presented):** An induction heater in  
2 accordance with claim 1, further having a third movement  
3 detection section for detecting a movement in which said  
4 object moves away from said induction heating coil based on  
5 the fact that said control section has increased the control  
6 value continuously so as to increase the output of said  
7 inverter circuit in said stable control mode, wherein when  
8 said third movement detection section detects the movement of  
9 said object, the shift to said first output mode is made so  
10 that said movement is stopped.

1           **Claim 13 (original):** An induction heater in accordance  
2 with claim 1 or claim 10, wherein when shifting from said  
3 reach control mode or said stable control mode to said first  
4 output mode, said control section outputs a correction value  
5 obtained by correcting the control value stored in said

6 storage section with a first correction value or a correction  
7 value such that the output value obtained by correcting the  
8 output value of said output detection section stored in said  
9 storage section with a first correction value can be gained,  
10 whereas when shifting from said first output mode to said  
11 reach control mode, said control section outputs a control  
12 value obtained by correcting the control value stored in said  
13 storage section with a second correction value or a  
14 correction value such that the output value obtained by  
15 correcting the output value of said output detection section  
16 stored in said storage section with a second correction value  
17 can be gained, and said first correction value is set greater  
18 than said second correction value.

1 **Claim 14 (original):** An induction heater in accordance  
2 with claim 1 or claim 5, wherein in the case where the set  
3 target output value is greater than a predetermined value,  
4 said control section does not lower the output even when said  
5 first movement detection section or said second movement  
6 detection section detects the movement of said object.

1 **Claim 15 (original):** An induction heater comprising an  
2 inverter including an induction heating coil which produces  
3 a high-frequency magnetic field to heat an object, a control  
4 section for controlling the output of said inverter, and a  
5 movement detection section which detects a state of operation

6 of said inverter or a state of said object until the output  
7 of said induction heating coil increases gradually from a low  
8 output to a predetermined output to detect a movement of said  
9 object, wherein

10 when said movement detection section performs the  
11 movement detection operation for detecting the movement of  
12 said object, said control section performs the output  
13 limiting operation for limiting the output of said induction  
14 heating coil to a value lower than the value when the  
15 movement thereof has been detected or stopping the heating,  
16 afterwards, repeats at least once the process of canceling  
17 said output limiting operation, increasing the output  
18 gradually again, performing said movement detection  
19 operation, and performing said output limiting operation, and  
20 when detecting that said movement detection operation is  
21 repeated with approximately the same output changes, said  
22 control section determines that the movement of said object  
23 has been caused by the high-frequency magnetic field produced  
24 by said induction heating coil, thereby limiting the output  
25 of said induction heating coil thereafter to the output lower  
26 than the output when said movement detection section has  
27 detected the movement of said object to carry out heating.

1 **Claim 16 (original):** An induction heater in accordance  
2 with claim 15, wherein said control section samples the  
3 output values of said inverter, the control values output by



4     said control section, or the weight of said object when said  
5     movement detection section detected a movement of said object  
6     a plurality of times, and based on a plurality of values  
7     obtained through the sampling, determines whether or not the  
8     movement of said object has been caused by the high-frequency  
9     magnetic field produced by said induction heating coil.

1           **Claim 17 (original):** An induction heater in accordance  
2     with claim 16, wherein said control section compares a  
3     plurality of values obtained through sampling or performs the  
4     calculation thereamong, and when determining that said  
5     plurality of values are approximately the same, said control  
6     section determines that said object has been moved by the  
7     high-frequency magnetic field produced by said induction  
8     heating coil.

1           **Claim 18 (original):** An induction heater in accordance  
2     with claim 15, wherein said control section detects the time  
3     required for the repetition of said movement detection  
4     operation and, according to the change of the time,  
5     determines whether or not a movement of said object has been  
6     caused by the high-frequency magnetic field produced by said  
7     induction heating coil.

1           **Claim 19 (original):** An induction heater in accordance  
2     with claim 18, wherein said control section measures the

3    repetition period of said movement detection operation a  
4    plurality of times, compares a plurality of values obtained  
5    by measurement or performs the calculation thereamong, and  
6    when a plurality of values are approximately the same, said  
7    control section determines that said object has been moved by  
8    the high-frequency magnetic field produced by said induction  
9    heating coil.

1            **Claim 20 (original):** An induction heater in accordance  
2    with claim 15, wherein when detecting that the movement of  
3    said object has been caused by the user operation after  
4    having performed the output limiting operation based on the  
5    result of the detection done by said movement detection  
6    section, said control section cancels said output limiting  
7    operation to increase the output of said induction heating  
8    coil to a predetermined output.

1            **Claim 21 (original):** An induction heater in accordance  
2    with claim 15, having a display section for providing a  
3    display corresponding to the output set by a user, wherein  
4    even when said control section starts the output limiting  
5    operation based on the result of the detection done by said  
6    movement detection section, said display section maintains  
7    the display corresponding to said set output, whereas after  
8    determining that the movement of said object has been caused  
9    by the high-frequency magnetic field produced by said

10 induction heating coil, said control section reduces the  
11 output to be displayed to the output lower than the displayed  
12 output corresponding to said output.

1       **Claim 22 (original):** An induction heater in accordance  
2 with claim 15, wherein according to the change of the output  
3 of said inverter, the control value output by said control  
4 section or the weight of said object with time, said movement  
5 detection section detects a movement of said object resulting  
6 from the high-frequency magnetic field produced by said  
7 induction heating coil.

1       **Claim 23 (original):** An induction heater comprising:  
2 an induction heating coil which produces a high-  
3 frequency magnetic field to heat an object;  
4 an inverter circuit which supplies a high-frequency  
5 current to said induction heating coil;  
6 an input section for making a setting of the heating;  
7 a movement detection section for detecting a movement of  
8 said object; and  
9 a control section which controls the output of said  
10 inverter circuit, and when said movement detection section  
11 detects a movement of said object, performs the limiting  
12 operation to stop or limit the output of said inverter  
13 circuit, wherein

14           according to the settings at said input section, the  
15       detection sensitivity of said movement detection section is  
16       decreased or the detection thereof is stopped, or said  
17       limiting operation of said control section is weakened or is  
18       not performed.

1           **Claim 24 (original):** An induction heater in accordance  
2       with claim 23, wherein said input section has a heating  
3       output setting section for setting heating output, and  
4       according to the heating output set at said heating output  
5       setting section, the detection sensitivity of said movement  
6       detection section is decreased or the detection thereof is  
7       stopped, or said limiting operation of said control section  
8       is weakened or is not performed.

1           **Claim 25 (original):** An induction heater in accordance  
2       with claim 24, wherein when the set value of the heating  
3       output at said heating output setting section becomes equal  
4       to or greater than a predetermined value, the detection  
5       sensitivity of said movement detection section is decreased  
6       or the detection thereof is stopped, or said limiting  
7       operation of said control section is weakened or is not  
8       performed.

1           **Claim 26 (original):** An induction heater in accordance  
2       with claim 23, wherein when said movement detection section

3 detects a movement of a load, according to the settings of  
4 said input section, selection between the continuation of the  
5 heating output and the stop thereof is made.

1       **Claim 27 (original):** An induction heater in accordance  
2 with claim 23, wherein when a setting section which said  
3 input section has in addition to said heating output setting  
4 section is used, the detection sensitivity of said movement  
5 detection section is decreased or the detection thereof is  
6 stopped, or said limiting operation of said control section  
7 is weakened or is not performed.

1       **Claim 28 (original):** An induction heater in accordance  
2 with claim 23, wherein when a change input section provided  
3 independently in said input section is used, the detection  
4 sensitivity of said movement detection section is decreased  
5 or the detection thereof is stopped, or said limiting  
6 operation of said control section is weakened or is not  
7 performed.

1       **Claim 29 (original):** An induction heater in accordance  
2 with claim 28, wherein said change input section has a fry  
3 cooking selection section for carrying out fry cooking, and  
4 when the fry cooking is selected, the detection sensitivity  
5 of said movement detection section is decreased or the

6 detection thereof is stopped, or said limiting operation of  
7 said control section is weakened or is not performed.

1       **Claim 30 (original):** An induction heater comprising:  
2       an induction heating coil which produces a high-  
3 frequency magnetic field to heat an object to be heated;  
4       an inverter circuit which supplies a high-frequency  
5 current to said induction heating coil;  
6       an output detection section for detecting the magnitude  
7 of the output of said inverter circuit;  
8       a movement detection section for detecting a movement of  
9 said object;  
10       a control section for controlling the output of said  
11 inverter circuit in response to the output of said output  
12 detection section and the output of said movement detection  
13 section; and  
14       a movement detection stop input section through which a  
15 user inputs a stop command to stop the detection operation of  
16 said movement detection section or to make said control  
17 section stop controlling the output in response to the output  
18 of said movement detection section.

1       **Claim 31 (original):** An induction heater comprising:  
2       an induction heating coil which produces a high-  
3 frequency magnetic field to heat an object to be heated;

4           an inverter circuit which supplies a high-frequency  
5           current to said induction heating coil;

6           an output detection section for detecting the magnitude  
7           of the output of said inverter circuit;

8           a movement detection section for detecting a movement of  
9           said object;

10          a control section for controlling the output of said  
11          inverter circuit in response to the output of said output  
12          detection section and the output of said movement detection  
13          section;

14          a movement detection stop input section for inputting a  
15          stop command to stop the detection operation of said movement  
16          detection section or to make said control section stop  
17          controlling the output in response to the output of said  
18          movement detection section; and

19          a first timer section which starts timing in association  
20          with the input operation to said movement detection stop  
21          input section, wherein

22          until a predetermined time period elapses after said  
23          first timer section starts timing, said control section  
24          performs control regardless of whether said object has moved  
25          or not.

1           **Claim 32 (original):** An induction heater comprising:

2           an induction heating coil which produces a high-  
3           frequency magnetic field to heat an object;

4           an inverter circuit which supplies a high-frequency  
5   current to said induction heating coil;  
6           an output detection section for detecting the magnitude  
7   of the output of said inverter circuit;  
8           a movement detection section for detecting a movement of  
9   said object;  
10          a control section for controlling the output of said  
11   inverter circuit in response to the output of said output  
12   detection section and the output of said movement detection  
13   section; and  
14          an output fixation input section for inputting an output  
15   fixation command, wherein  
16          when said output fixation command is input, said control  
17   section fixes the output of said inverter circuit regardless  
18   of whether said object has moved or not.

1           **Claim 33 (original):** An induction heater in accordance  
2   with claim 32, having a second timer section which starts  
3   timing in association with the input of said output fixation  
4   command to said output fixation input section, wherein when  
5   the time measured by said second timer section becomes equal  
6   to or longer than a predetermined time period, said control  
7   section cancels the fixation of the output of said inverter  
8   circuit.



1           **Claim 34 (original):** An induction heater in accordance  
2   with claim 32, wherein said control section fixes the output  
3   of said inverter circuit only while said output fixation  
4   input section inputs said output fixation command.

1           **Claim 35 (original):** An induction heater in accordance  
2   with claim 32 having an fixed output setting section for  
3   adjusting the output of said inverter circuit to be fixed at  
4   said output fixation input section.